

Amendment

Serial No.: 10/090,965

Filed: March 4, 2002

For: PRODUCTION OF POLYHYDROXYALKANOATES

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Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. (original) A method for the production of a polyhydroxyalkanoate (PHA) comprising:
providing a transgenic yeast cell comprising a first nucleic acid fragment comprising a heterologous nucleotide sequence encoding a PHA polymerase and at least one second nucleic acid fragment comprising a heterologous nucleotide sequence selected from the group consisting of a heterologous nucleotide sequence encoding an acetoacetyl-CoA reductase and a heterologous nucleotide sequence encoding a β -ketothiolase;
culturing the transgenic yeast cell under anaerobic conditions to cause the production of PHA; and
isolating the PHA from the yeast cell.
2. (original) The method of claim 1 wherein the first and second nucleic acid fragments constitute a single nucleic acid fragment.
3. (original) The method of claim 2 wherein the single nucleic acid fragment comprises a divergent promoter operably linked to two of the heterologous nucleotide sequences.
4. (original) The method of claim 1 wherein the yeast cell comprises a second nucleic acid fragment comprising a heterologous nucleotide sequence encoding an acetoacetyl-CoA reductase and a third nucleic acid fragment comprising a nucleotide sequence encoding a β -ketothiolase.
5. (original) The method of claim 4 wherein at least two of the first, second and third nucleic acid fragments constitute a single nucleic acid fragment.
6. (original) The method of claim 5 wherein the single nucleic acid fragment comprises a divergent promoter operably linked to two of the heterologous nucleotide sequences.

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7. (original) The method of claim 1 wherein at least one nucleic acid fragment is integrated into the genome of the yeast cell.

8. (original) The method of claim 1 further comprising introducing at least one nucleic acid fragment into the yeast cell to yield the transgenic yeast cell.

9. (original) The method of claim 1 wherein the yeast cell is a cell from the genus *Saccharomyces*.

10. (original) The method of claim 1 wherein the yeast cell is an *S. cerevisiae* cell.

11. (original) The method of claim 1 wherein the yeast cell is a cell from the genus *Kluyveromyces*.

12. (original) The method of claim 1 wherein the PHA polymerase comprises a PHA_{SCL} polymerase.

13. (original) The method of claim 1 wherein the PHA polymerase comprises a PHA_{MCL} polymerase.

14-93. (cancel)

94. (withdrawn) The method of claim 1 further comprising, prior to culturing the transgenic yeast cell under anaerobic conditions to cause production of PHA, culturing the transgenic yeast cell under conditions to cause the production of ethanol and isolating the ethanol from the cell culture.